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METHOD OF JOINING DISSIMILAR MATERIALS

ABSTRACT OF THE DISCLOSURE

The present invention provides a method of joining dissimilar materials, particularly a non-ferrous component to a ferrous component to form an assembly. In an overlapping configuration, the parts are held together under a clamping force while a self-piercing rivet is driven through the assembly by a welding electrode. The rivet pierces and passes through the non-ferrous component and then at least into contact with the ferrous component to thereby form a mechanical interlock. An electrical current is then applied to this mechanical retention to melt a portion of the rivet as well as a portion of the ferrous metal in the joining region. The flow of electrical current is then stopped after several welding cycles where the now melted material is allowed to solidify upon cooling, thereby forming a weld.